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AMENDMENTS TO THE CLAIMS

1. (currently amended) A method for applying a vibration damping layer to a heat shield of a catalytic converter, comprising:

securing an ~~uncoated~~ heat shield to a catalytic converter in ~~the~~ an exhaust system of an ~~automotive vehicle~~ engine,

running the engine ~~of the vehicle~~;

locating regions of said heat shield where the highest level of vibration occur while running the engine; and

thermal spraying a coating of Al-Si onto the heat shield in the located regions, the coating providing the vibration damping layer.

2. (previously presented) The method of claim 1, wherein the locating step includes identifying the regions with a laser vibration scan.

3. (canceled)

4. (currently amended) The method of claim 1, wherein the composition of the Al-Si is in the range of about Al-Si 4% to Al-Si 18% by weight or atomic percent Si.

5. (original) The method of claim 1, wherein the composition of the Al-Si is about Al-Si 12%.

6. (original) The method of claim 1, wherein the heat shield is made of stainless steel.

7. (canceled)

8. (withdrawn) A heat shield for a catalytic converter, comprising:  
a substrate; and

a coating made from Al-Si applied to the substrate to form an mechanical bond between the substrate and the coating, the coating providing a damping layer to reduce the peak resonances of the heat shield.

9. (withdrawn) The heat shield of claim 9, wherein the substrate is made of stainless steel.

10. (withdrawn) The heat shield of claim 9, wherein the coating is made from a eutectic Al-Si composition in the range of about Al-Si 4% to Al-Si 18 %.

~~12~~ 11. (withdrawn) The heat shield of claim 10, wherein the Al-Si composition is about Al-Si 12%.

~~13~~ 12. (currently amended) The method of Claim 1, wherein the locating step includes measuring the level of vibration on said heat shield using a sound pressure recording.